



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2022-0024; Project Identifier MCAI-2021-00994-R;**

**Amendment 39-21999; AD 2022-07-11]**

**RIN 2120-AA64**

**Airworthiness Directives; Leonardo S.p.a. Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 2021-17-18, which applied to all Leonardo S.p.a. Model A109C, A109K2, A109E, A109S, and AW109SP helicopters. AD 2021-17-18 required an inspection of certain tail rotor (TR) sleeve assemblies for discrepancies, an inspection of certain TR shaft assemblies for discrepancies, a repetitive measurement of the position of the bushing of the TR sleeve assembly in relation to the pitch change slider assembly, and corrective actions if necessary. This AD retains the requirements of AD 2021-17-18, and also requires repetitive inspections of the TR sleeve assemblies, and corrective actions if necessary, as specified in a European Union Aviation Safety Agency (EASA) AD, which is incorporated by reference. This AD was prompted by a determination that additional actions are required to address the unsafe condition. This AD was also prompted by a report of a crack on the TR mast. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of September 7, 2021 (86 FR 46766, August 20, 2021).

**ADDRESSES:** For material incorporated by reference (IBR) in this AD, contact the EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu); Internet: [www.easa.europa.eu](http://www.easa.europa.eu). You may find this material on the EASA website at <https://ad.easa.europa.eu>. You may view this material at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call 817-222-5110. It is also available in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0024.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0024; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; phone: (516) 228-7330; email: [andrea.jimenez@faa.gov](mailto:andrea.jimenez@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Background**

The EASA, which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2021-0144, dated June 17, 2021 (EASA AD 2021-0144). (also referred to as the Mandatory Continuing Airworthiness Information, or the MCAI), to correct an unsafe condition for all Leonardo S.p.a. (formerly Finmeccanica S.p.A., AgustaWestland S.p.A., Agusta S.p.A.) Model A109C, A109K2, A109E, A109S, and AW109SP helicopters.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2021-17-18, Amendment 39-21701 (86 FR 46766, August 20, 2021) (AD 2021-17-18). AD 2021-17-18 applied to all Leonardo S.p.a. Model A109C, A109K2, A109E, A109S, and AW109SP helicopters. The NPRM published in the *Federal Register* on February 3, 2022 (87 FR 6091). The NPRM was prompted by a determination that additional actions are required to address the unsafe condition. The NPRM was also prompted by a report of a crack on the TR mast. The NPRM proposed to continue to require an inspection of certain TR sleeve assemblies for discrepancies, an inspection of certain TR shaft assemblies for discrepancies, a repetitive measurement of the position of the bushing of the TR sleeve assembly in relation to the pitch change slider assembly, and corrective actions if necessary, as specified in an EASA AD. The NPRM also proposed to require repetitive inspections of the TR sleeve assemblies, and corrective actions if necessary, as specified in an EASA AD.

The FAA is issuing this AD to address cracking on the TR mast, which could lead to failure of the TR mast, with consequent loss of control of the helicopter. See the MCAI for additional background information.

### **Discussion of Final Airworthiness Directive**

## **Comments**

The FAA gave the public the opportunity to participate in developing this final rule. The FAA received no comments on the NPRM or on the determination of the cost to the public.

## **Conclusion**

The FAA reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes.

The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

## **Related Service Information Under 1 CFR Part 51**

This AD requires EASA AD 2021-0144, which the Director of the Federal Register approved for incorporation by reference as of September 7, 2021 (86 FR 46766, August 20, 2021). This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

## **Differences Between this AD and the MCAI**

Paragraph (1) of EASA AD 2021-0144 specifies the inspection must be done within 25 flight hours or 3 months, whichever occurs first. However, this AD requires the inspection to be done within 25 hours time-in-service after September 7, 2021 (the effective date of AD 2021-17-18).

## **Interim Action**

The FAA considers this AD interim action. The inspection reports that are required by this AD will enable the manufacturer to obtain better insight into the nature,

cause, and extent of the cracking, and eventually to develop final action to address the unsafe condition. Once final action has been identified, the FAA might consider further rulemaking.

### **Costs of Compliance**

The FAA estimates that this AD affects 133 helicopters of U.S. registry. The FAA estimates the following costs to comply with this AD:

#### **Estimated costs for required actions**

| <b>Action</b>  | <b>Labor cost</b>   | <b>Parts cost</b> | <b>Cost per product</b>                      | <b>Cost on U.S. operators</b>                   |
|--|---|-------------------|--|---|
| Retained Inspections/Measurements from AD 2021-17-18 | Up to 6 work-hours X \$85 per hour = \$510 per inspection/measurement cycle | \$0               | Up to \$510 per inspection/measurement cycle | Up to \$67,830 per inspection/measurement cycle |
| New Repetitive Inspections                           | Up to 1 work-hour X \$85 per hour = \$85 per inspection cycle               | \$0               | Up to \$85 per inspection cycle              | Up to \$11,305 per inspection cycle             |

The FAA estimates the following costs to do any necessary on-condition actions (replacements, repairs, and reporting) that would be required based on the results of any required actions. The FAA has no way of determining the number of helicopters that might need these on-condition actions:

#### **Estimated costs of on-condition actions\***

| <b>Action</b>         | <b>Labor cost</b>                       | <b>Parts cost</b> | <b>Cost per product</b> |
|-----------------------|---|-------------------|-------------------------|
| Retained Replacements | 19 work-hours X \$85 per hour = \$1,615 | \$88,760          | Up to \$90,375          |
| Retained Reporting    | 1 work-hour X \$85 per hour = \$85      | \$0               | \$85                    |

\* The FAA has received no definitive data on which to base the cost estimates for the on-condition repairs specified in this proposed AD.

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators. The

FAA does not control warranty coverage for affected operators. As a result, the FAA has included all known costs in the cost estimate.

### **Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. The paperwork cost associated with this AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Pkwy., Fort Worth, TX 76177-1524.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive (AD) 2021-17-18, Amendment 39-21701 (86 FR 46766, August 20, 2021); and

- b. Adding the following new AD:

**2022-07-11 Leonardo S.p.a.:** Amendment 39-21999; Docket No. FAA-2022-0024;

Project Identifier MCAI-2021-00994-R.

**(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD replaces AD 2021-17-18, Amendment 39-21701 (86 FR 46766, August 20, 2021) (AD 2021-17-18).

**(c) Applicability**

This AD applies to all Leonardo S.p.a. Model A109C, A109K2, A109E, A109S, and AW109SP helicopters, certificated in any category.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 6400, Tail Rotor System.

**(e) Unsafe Condition**

This AD was prompted by a report of a crack on the tail rotor (TR) mast. The FAA is issuing this AD to address cracking on the TR mast, which could lead to failure of the TR mast, with consequent loss of control of the helicopter.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Requirements**

Except as specified in paragraph (h) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2021-0144, dated June 17, 2021 (EASA AD 2021-0144).

**(h) Exceptions to EASA AD 2021-0144**

(1) Where EASA AD 2021-0144 refers to its effective date, this AD requires using September 7, 2021 (the effective date of AD 2021-17-18).

(2) The “Remarks” section of EASA AD 2021-0144 does not apply to this AD.



(3) Where EASA AD 2021-0144 refers to flight hours (FH), this AD requires using hours time-in-service.

(4) Where paragraph (1) of EASA AD 2021-0144 specifies a compliance time of 25 FH or 3 months, whichever occurs first, this AD requires compliance within 25 hours time-in-service after September 7, 2021 (the effective date of AD 2021-17-18).

(5) Where Note 1 of EASA AD 2021-0144 specifies a tolerance of 30 FH, this AD does not allow a tolerance.

(6) The initial compliance time for the inspection specified in paragraph (5) of EASA AD 2021-0144 is at the compliance time specified in paragraph (5) of EASA AD 2021-0144, or within 30 days after the effective date of this AD, whichever occurs later.

(7) Where paragraph (6) of EASA AD 2021-0144 states the term “discrepancies,” for the purposes of this AD discrepancies include dents, corrosion, elongation, scratches, wear, excessive wear (web visible), fretting, or stepping.

(8) Where paragraph (7) of EASA AD 2021-0144 states the term “discrepancies,” for the purposes of this AD discrepancies include abnormal wear condition, corrosion, fretting, crack, or damage (including dents, elongation, scratches, or stepping).

(9) Where EASA AD 2021-0144 defines “serviceable part,” and that definition specifies instructions that are “approved under Leonardo Design Organization Approval (DOA) or by EASA,” for this AD, the repair must be accomplished using a method approved by the Manager, General Aviation and Rotorcraft Section, International Validation Branch, FAA; or EASA; or Leonardo S.p.a.’s EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

(10) Where Note 2 and paragraph (7) of EASA AD 2021-0144 specify instructions that are “approved under Leonardo DOA or by EASA,” for this AD, the repair must be accomplished using a method approved by the Manager, General Aviation

and Rotorcraft Section, International Validation Branch, FAA; or EASA; or Leonardo S.p.a.'s EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

(11) Where the service information referenced in EASA AD 2021-0144 specifies to contact the manufacturer for corrective action, this AD requires the repair to be done in accordance with a method approved by the Manager, General Aviation and Rotorcraft Section, International Validation Branch, FAA; or EASA; or Leonardo S.p.a.'s EASA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

(12) Where the service information referenced in EASA AD 2021-0144 specifies to discard a certain part, this AD requires removing that part from service.

**(i) Special Flight Permit**

Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the helicopter to a location where the actions of this AD can be performed, provided no passengers are onboard.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (k) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(k) Related Information**

For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; phone: (516) 228-7330; email: [andrea.jimenez@faa.gov](mailto:andrea.jimenez@faa.gov).

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(3) The following service information was approved for IBR on September 7, 2021 (86 FR 46766, August 20, 2021).

(i) European Union Aviation Safety Agency (EASA) AD 2021-0144, dated June 17, 2021.

(ii) [Reserved]

(4) For EASA AD 2021-0144, contact the EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu); Internet: [www.easa.europa.eu](http://www.easa.europa.eu). You may find this EASA AD on the EASA website at <https://ad.easa.europa.eu>.

(5) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call 817-222-5110. This material may be found in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0024.

(6) You may view this material that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to:

<https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on March 24, 2022.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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